

## **IN THE SUBSTITUTE SPECIFICATION**

Please cancel paragraphs 003, 008, 013, 018, 020, 038 and 055 of the Substitute Specification which accompanied the Preliminary Amendment, as filed. Please replace those cancelled paragraphs with replacement paragraphs 003, 008, 013, 018, 020, 038 and 055, as follows.

[003.] Pairs of cylinders are frequently employed as tools for guiding webs of material, or for processing their surfaces. The cylinders are rotatably arranged with pivotable shafts and delimit a gap through which the web of material runs. Along a clamping line which is parallel with the shafts, the web is subjected to a pressure from a cylinder, which pressure exerts a guiding pressure or effect on the web of material, or performs web processing. This pressure must be evenly distributed over the length of the clamping line to assure that the processing is even over the width of the web and, with guiding rollers, to prevent irregularities of any slippage occurring between the rollers and the web over the width of the web, which irregularities can lead to a deformation of the web per se. Such a deformation can be the source of indexing errors when printing on the web.

[008.] USP 3,638,292 and EP 0 741 253 A2 show contact pressure rollers, ~~and which wheels~~ have wheels in their interior, and which wheels can be charged with a pressure medium. These wheels are arranged on a common shaft.

[013.] An exact guidance of a web, in a manner which is free of indexing errors, is

made difficult, particularly in connection with rotogravure printing presses of great width, because it is extremely difficult to produce forme cylinders, also of great length, and which have an exactly constant diameter over their length. In most cases, such a long forme cylinder is slightly thicker in its center than it is at its edges or ends. A traction force, which is exerted between the forme cylinder and a counter- pressure cylinder, on a web passed through between them, is therefore typically greater in the center of the web than it is at the edges of the web.

[018.] In accordance with the present invention, this object is attained by the provision of a cylinder, which is contacting a web of material, the cylinder having a bend either in, or opposite to the running direction of the web of material. The bend is imparted to the cylinder as a function of at least one image element on the web. The cylinder, and a second cylinder placed against it, can form a gap through which the web passes. The web is clamped along a clamping line defined by the cooperation of the two cylinders. That clamping line can be curved either in, or in opposition to, the web travel direction.

[020.] A cylinder shaft in accordance with the present invention preferably has a device, around which a first cylinder can be rotated, two end sections and a center section, which shaft and its sections~~selections~~ support the first cylinder at its ends, or in the center. At least one actuating member is arranged on the shaft for shifting the end sections and the center section with respect to each other in a direction which is vertical with respect to the shaft of the first cylinder, and in this way to bend the first cylinder. If the displacement direction of the actuating member forms an angle with a plane defined

by the shaft of the first cylinder and by the shaft of the second cylinder, the actuating member also can cause or effect the curvature of the clamping line, which is required by the present invention.

[038.] A tappet 19, which is acting as an actuating member 19, and which is preferably provided in the form of a brass bolt 19, is also provided at the bearing bushing 16 which, hydraulically displaceable, is pressed against the end sections 1513 of the shaft's center section 13 which are received in the narrower area of the bearing bushing 16. Next to the tappet 19, two set screws 21, which are arranged diametrically opposite to each other with respect to a center axis of the shaft 09, are provided in the bearing bushing 16 and also act as actuating members. A horizontal force is respectively exerted by each of the set screws 21 on the shaft end sections 1513. The tappet 19, as well as the two set screws 21, are all provided with sealing elements 22 at the level of a bore in the wall of the bearing bushing 16 into which they have been inserted. These sealing elements are provided to prevent the escape of the thermal oil from the bearing bushing 16.

[055.] During operation of the rotogravure printing press, the hollow shell 26 of the counter-pressure cylinder 23 rotates around the fixed shaft 24. For generating a uniform pressure over a length of the clamping line 08, between the counter-pressure cylinder 23 and the forme cylinder 02, it is necessary to match the shape of the counter-pressure cylinder 23 to an outer shape of the forme cylinder 02. This is done by use of the actuating members 27, 28, 29. By charging members 27, 28, 29 with hydraulic

pressure, the pistons 36 are extended and the wheels 38 are caused to press against the hollow cylinder shell 26, which wheel pressure results in a shifting of the hollow shell 26 with respect to the shaft 24. ~~The outer~~The outer shape of the shell 26 can thus be adapted to compensate for bending or for other irregularities in the shape of the forme cylinder 02, and the desired pressure distribution in the clamping lines 08 can be realized. Above all, the right-angled arrangement of the first actuating members 27 and of the second actuating members 28, 29 permits bending of the shell 26 at any arbitrary angle, with respect to a plane extending through the axes of the counter-pressure cylinder 23 and the forme cylinder 02 placed against it, and therefore permits the setting of a path length of the web, which is variable in the direction of the width of the web 04, between two fixed points, such as for example between guide rollers situated on both sides of the gap 07.